



## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

## MEMORANDUM

DATE: November 20, 1981 *File*

TO: *✓* Thomas E. Cavanagh and Eugene P. Theios

FROM: Sallie A. Smith *SA* and Linda J. Kissinger *LJK*

SUBJECT: MADISON COUNTY - EAST ALTON/OLIN-MAIN PLANT  
PRE-DE INSPECTION

EPA Region 5 Records Ctr.



382804

On Friday, November 13, 1981, 10:00 A.M. to 4:30 P.M., a Pre-DE inspection was conducted at the referenced facility. The following persons were in attendance:

Diane Spencer	FOS, LPC
Linda Kissinger	Res. Mgt., LPC
Sallie Smith	Res. Mgt., LPC
Mike Roark	Sr. Energy & Environmental Engineer - Olin Corp.
Wayne Galler	Energy and Environmental Engineer - Olin Corp.

It was sunny and cool, with a light breeze. Olin Corporation manufactures ammunition and explosives, and security guards were located throughout the plant. The plant was started before 1900 and has gradually expanded since then. We inspected all areas in the plant described in the application. The entire application deals with Olin's management of hazardous wastes.

Several sloughs meander through the west half of the facility in the vicinity of the areas designated as 1-X. The sloughs are old Wood River channels. The Corps of Engineers has constructed levees for 100-year flood protection throughout the area. The Olin facility is protected by these levees.

The West Slough has several outfall pipes for steam condensate. The slough normally discharges to Olin's wastewater treatment plant (hereinafter referred to as WWT). Mike Roark stated that during heavy storms, the slough discharges directly to Wood River.

The Olin WWT (Site 1-11) receives all plant wastewaters for treatment under NPDES Permit via an extensive plant sewer system.

Four waste piles observed during the ISS inspection have been removed. Lead contaminated sand has been disposed off-site and is now removed as generated.

For clarity the rest of this memo is written in site number order rather than in the order inspected.

Site No.

1-1 The cyanide destruction unit consists of two tanks for reducing cyanide to cyanate. The above ground, indoor steel tank is open to the atmosphere and sits on a concrete pad with no provision for secondary containment. Dimensions are approximately 6' X 10' X 6' high, capacity approx. 3350 gallons.

The other tank is an outdoor, underground, covered concrete 480 gallon tank, approximately 6' deep. This tank receives waste from the indoor tank prior to discharge to WWT. No provisions for monitoring have

been made. Once per year the tank is emptied of solids collected here, then cleaned.

A third tank, above ground, outdoor, steel, with 12,000 gallon capacity, sits on concrete 4-5' high and is not in use at this time. Though included as part of the application for permit, Olin does not plan to use the tank in this process.

- 1-2 Two of three drum storage areas described as 1-2 are no longer in use. All wastes generated in this section of the plant are now stored in a 15' X 15' roofed area where a driveway slopes to a machine shop entrance. Although the driveway slopes toward the building, there is nothing to prevent a spill from entering the building. The waste solvent is stored with auto maintenance solvent and oils (products). Capacity for waste storage here is 6 drums, not stacked.
- 1-3 A 1300 gallon in-ground, open, concrete tank under roof is used for treatment of small arms ammunition priming mix to "kill" the explosive prior to discharge to WWT. The top of the tank was approximately at ground level and 2' above the liquid. Approximate depth of the liquid is 6' according to the operator. The tank is situated about 6' from the slough. The liquid level in the tank is approximately the same elevation as the water level in the slough.
- 1-4 Two open, on-ground, 100 gallon steel "kill" tanks are located inside a shed on concrete about 25' from the west slough. Wastewater goes to WWT, solids collect in the tank and are treated and flushed to WWT on a varying frequency. No secondary containment.
- 1-5 Two above ground, open, 100 gallon steel tanks are located in a shed and used to treat wastewater from small arms primer mix treatment, Site 1-6. Wastewater goes to WWT, solids are treated in the tank and flushed to WWT as needed. No secondary containment.
- 1-6 An open, above ground, indoor 360 gallon tank is used to treat off-specification product prior to reclaiming the brass component. No permit required since this process treats off-spec product.
- 1-7 This area is for reduction of  $\text{Cr}^{+6}$  to  $\text{Cr}^{+3}$  in an open, metal 1000 gallon tank surrounded by a grate with unknown capacity below for secondary containment. The tank is located in a closed room on the third floor of the machine shop. Wastewater goes to WWT, solids are treated in the tank and flushed to WWT as needed.
- 1-8 This drum storage area (10' X 15') is for dry lead dust (waste) and off-spec metal products. Drums are stacked two high on pallets, 4 drums front to back. Heavy steel walls are 4' high on three sides of storage area. Asphalt pavement slopes to back of bin, which is very close to the property line.

- 1-9 This area is for accumulation of waste solvent, in drums, as generated in the lab. Full drums are transferred to site 4-2a. No full drums are stored here, therefore no permit needed.
- 1-11 The Olin wastewater treatment plant consists of 2 neutralization/equalization concrete basins, 2 flocculator/clarifier concrete basins, a sludge thickener, a one million gallon emergency holding lagoon with 1½" asphalt liner, and a control building housing a vacuum filter and a dumpster for collection of dewatered sludge. Included in the application for LPC permit were the sludge thickener, vacuum filter and dumpster.

The entire Olin wastewater treatment plant is permitted under an NPDES Permit.

The sludge is collected in the dumpster and removed continuously for off-site disposal. The dumpster is located on a roofed concrete area with a grate across the doorway, providing some secondary containment.

The emergency holding lagoon is used approximately once per month. There are no provisions for monitoring. Rainwater was in the lagoon according to Mr. Roark.

- 1-12 A tarp-covered 15 cubic yard dumpster, located outside on asphalt approximately 6' from a storm drain, collects dry waste from two 2-cubic yard containers (Site 1-13). The dumpster is periodically removed for disposal off-site.
- 1-13 Two covered 2-cubic yard containers collect dry lead-contaminated cob-meal and walnut shells after processing. The dumpsters are situated on asphalt pavement abutting the property line. No permit needed as this waste is collected here as generated.
- 1-14 One drum is located here for accumulation of spent halogenated solvent. No secondary containment was observed. No permit needed.
- 1-15 This site consists of two areas for waste storage. One is for mercury-contaminated brass parts prior to cleaning with acid to remove mercury. Brass parts are reclaimed in-house. No secondary containment. The other storage area, under a cabinet, is for collection of mercurous nitrate that has been used in the decontamination process. The mercurous nitrate is sent to the Olin analytic lab for reclamation. No secondary containment. No permit required for these two areas described as 1-15.
- 1-17 This indoor storage area holds product, and one drum for accumulation of small quantities of waste solvent. The area is sloped to provide an unknown volume of secondary containment. Full drums of waste solvent are transferred to 4-2a. No permit needed.

- 4-1 A 4500 gallon stainless steel storage tank for spent acid is located on a concrete pad in a bermed area which also surrounds two acid (product) tanks. Limestone in the bottom of the bermed area is present to neutralize a possible acid spill.
- 4-2a An outdoor fenced area (250,000 sq.ft.) with crushed rock over soil is the storage area for collection of containerized waste from all parts of the Olin facility. No secondary containment. A smaller area (about 30' X 40') to the northeast within 4-2a is fenced and contains waste solvents (12 drums), magnesium waste (30 drums), and mercury waste (20 drums). Drums were on pallets one high, labelled, and segregated by waste type. This area is compartmentalized by fences for six different waste types. Mercury wastes were under plastic. No secondary containment.
- 4-2b This indoor tank treats off-spec product by separating paper and plastic from brass components. Paper and plastic are removed to a landfill, brass is reclaimed in-house. No permit required.
- 4-2c A rotary destruct furnace in the same building with 4-2b destroys primer on off-spec brass parts received from 4-2b. No permit required.
- 4-2c One storage area and one treatment tank make up 4-2c. The treatment tank is an outdoor, in-ground 3000 gallon concrete tank 8-10' deep with a steel cover. Sludge (paper, plastic and water from 4-2b) settles and waste water is discharged to WWT. The sludge is vacuum pumped and removed every 6-8 weeks to a landfill. No secondary containment is provided during the removal of sludge from this tank. This is no monitoring of the underground tank.
- The storage area is located outdoors on crushed rock. A 15 cubic yard dumpster collects sump sludge (paper and plastic) from above treatment tank. The sludge is disposed off-site.
- 4-2e An open 200 gallon stainless steel tank is set on concrete inside the building with 4-2b and 4-2c. This "kill" tank treats off-spec explosives primer (product). No secondary containment. No permit needed.
- 4-3 The incinerator is about 8-10 years old according to Mike Roark. It (4-2d is located outdoors, partly under roof. All necessary permits have on been obtained from APC to burn smokeless powder on fiberpaks and plans) rags and sponges contaminated with primer and carbon. Wastes are transported to 4-2a for storage.
- 4-4 Three outdoor in-ground concrete tanks each with a wooden cover are used for settling of solids in the priming mix wastewater used in Research and Development. Solids are removed once per year. Wastewater flows continuously to WWT. The largest tank is approximately 3' X 3' X 3' deep. The other two tanks are 3' X 1½' X 3' deep. All tank tops are 3-4" above ground level. No secondary containment or monitoring.

- 4-5 An outdoor, under roof, 2000 gallon open steel tank 6' deep set in concrete treats small arms ammunition priming mix wastewater. A concrete curb is 1' high on three sides. No monitoring. Solids removed, wastewater to WWT.

A small storage area for collection of 30-gallon fiberpaks containing solids from 4-5 (treatment) is stored up to two weeks maximum, then transferred to 4-2a. Containers are on a flat concrete slab with a 1' retaining wall on one side. No secondary containment. No permit needed.

- 4-7 Three storage areas are for spent paint solvents. Two small areas are for storage of one drum each. Drums are used for accumulation of solvent at point of generation. No secondary containment. No permit needed.

The third drum storage area contains 4 drums of waste solvent on pallets outside on concrete. No secondary containment. Immediately adjacent to the drummed solvents were 45 drums of ethylene glycol (product) and a lesser number of drums containing ballistic sand (waste?). No buffer was observed between waste types. Wastes are removed to 4-2a prior to removal from facility.

SAS/LJK/rr

cc: Bill Child  
Southern Region  
Division File  
Diane Spencer - Southern Region

L  
WASTE PILES

Facility Name: EAST ALTON / DLN

Date of Inspection: 4-3-81 / 4-16

	Yes	No	NI*	Remarks
1. Are waste piles covered or protected from dispersal by wind?	---	<input checked="" type="checkbox"/>	---	<u>NO TYPE OF PROTECTION</u>
2. Is each in-coming movement of waste analyzed before being added to the waste pile?	---	<input checked="" type="checkbox"/>	---	<u>ADDITIONS MADE TO WASTE PILE ~ 1 TIME PER YEAR</u>
3. Are leachate, run-off, and run-on controlled as per the requirements of 265.258? (The effective date of this provision is Nov. 19, 1981.)	---	<input checked="" type="checkbox"/>	---	<u>THIS MATTER HAS NOT BEEN ADDRESSED AT THIS TIME</u>
4. Are reactive & ignitable wastes rendered non-reactive or non-ignitable before storage in a pile? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	---	<u>N/A</u>	---	{ <u>NO REACTIVE OR IGNITABLE WASTE STORED IN PILES</u>
5. Are piles of reactive or ignitable waste protected from materials or conditions that might cause them to ignite or react?	---	<u>N/A</u>	---	
6. Are incompatible wastes stored in different piles? (If not, the provisions of 40 CFR 265.17(b) apply.)	---	<u>N/A</u>	---	<u>NO INCOMPATIBLE WASTE PILES</u>
7. Are piles of incompatible waste protected by barriers or distance from other waste?	---	<u>N/A</u>	---	<u>NO INCOMPATIBLE WASTE PILES</u>

C and P  
INCINERATION and THERMAL TREATMENT

(A) Facility Name: EAST ALTON / OLIN

(B) Date of Inspection: 4/3/81 ; 4/16/81

I. Determination of Steady State

A. Type of unit (i.e., type of incinerator or thermal treatment): \_\_\_\_\_

B. Components and steady state condition:

\*\*\*\* Was this component at SS prior to adding waste

	Component	Yes	No	NI*	Remarks
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

II. Waste Analysis

A. Minimum requirements, for wastes not previously burned/treated.

	1. Required analyses; has an analysis been performed for the following?	Yes	No	NI*	Remarks
a.	Heating value	_____	_____	_____	_____
b.	Halogen content	_____	_____	_____	_____
c.	Sulfur content	_____	_____	_____	_____

Yes No NI\* Remarks

2. Has documented or written data been substituted for analysis of either:

a. Lead?

\_\_\_\_

b. Mercury?

\_\_\_\_

B. List other parameters for which the waste is tested to enable owner or operator to establish steady state or determine the types of pollutants which may be emitted. (Note in Remarks any which you feel should be tested.)

Remarks

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

### III. Monitoring and Inspections

Yes No NI\* Remarks

A. Are combustion/emission control instruments monitored at least every 15 minutes?

\_\_\_\_

B. Is steady state maintained or corrections attempted?

\_\_\_\_

C. Is stack plume observed at least hourly for normal color and opacity?

\_\_\_\_

D. Did any stack observations made by owner or operator show a plume different than normal?\*\*

\_\_\_\_

E. If yes to D above, were corrections made to return emissions to normal appearance?\*\*

\_\_\_\_

F. Are the complete unit and associated equipment inspected daily for leaks, spills, and fugitive emissions?

\_\_\_\_

G. Are emergency shutdown controls and system alarms checked daily for proper operation?

\_\_\_\_

\*Not Inspected

\*\*Specify in Remarks for what period of time this was checked.



#### IV. Open Burning

A. Only complete this part if the facility open burns hazardous waste.

Yes	No	NI*	Remarks
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1. Does this facility burn only waste explosives?

(A No answer means other  
hazardous waste is open-  
burned.)

2. If this facility open-burns waste explosives, does it burn the waste at a distance greater than or equal to the minimum specified distance (below)

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others	
0 to 100.....	204 m	670 ft
101 to 1,000.....	380 m	1,250 ft
1,001 to 10,000.....	530 m	1,730 ft
10,0001 to 30,000.....	690 m	2,260 ft

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## CHEMICAL, PHYSICAL and BIOLOGICAL TREATMENT

Facility Name: EAST ALTON / OLIN

Date of Inspection: 4/3/81 : 4/16/81

Yes	No	NI*	Remarks
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1. Is equipment used to treat only those wastes which will not cause leakage, corrosion, or premature failure?

2. Is a continuously fed system equipped with a means of hazardous waste inflow stoppage or control (e.g., cut-off system?)

	Yes	No	NI*	Remarks
3. Has the owner or operator addressed the waste analysis requirements of 265.402?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Are inspection procedures followed according to 265.403?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Are the special requirements fulfilled for ignitable or reactive wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<u>N/A</u>	<u>IGNITABLE &amp; REACTIVE WASTE</u> <u>NOT STORED IN TANKS</u>
6. Are incompatible wastes treated? (If yes, 265.17(b) applies.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Note: EPA has temporarily suspended the applicability of the requirements of the hazardous waste regulations in 40 CFR Parts 122, 264 and 265 to owners and operators of (1) wastewater treatment tanks that receive, store, and treat wastewaters that are hazardous waste or that generate, store or treat a wastewater treatment sludge which is a hazardous waste where such wastewaters are subject to regulation under Sections 402 or 307(b) of the Clean Water Act (33 U.S.C. 1251 et seq.) and (2) neutralization tanks, transport vehicles, vessels, or containers which neutralize wastes which are hazardous only because they exhibit the corrosivity characteristic under 40 CFR §261. or are listed as hazardous wastes in Subpart D of 40 CFR Part 261 only for this reason.

#### IX

Complete this section if the owner or operator of a TSD facility also generates hazardous waste that is subsequently shipped off-site for treatment, storage, or disposal.

#### 1. MANIFEST REQUIREMENTS

	Yes	No	NI*	Remarks
(A) Does the operator have copies of the manifest available for review?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
(B) Do the manifest forms reviewed contain the following information: (If possible, make copies of, or record information from, manifest(s) that do not contain the critical elements)				
1. Manifest document number?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Name, mailing address, telephone number, and EPA ID Number of Generator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Yes	No	NI*	Remarks
3. Name and EPA ID Number of Transporter(s)?	✓	—	—	—
4. Name, address, and EPA ID Number of Designated permitted facility and alternate facility?	✓	—	—	—
5. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	✓	—	—	—
6. The total quantity of waste(s) and the type and number of containers loaded?	✓	—	—	—
7. Required certification?	✓	—	—	—
8. Required signatures?	✓	—	—	—
(C) Does the owner or operator submit exception reports when needed?	—	—	N/A	AT THIS TIME

NO WASTE LEAVING THE  
SITE AT THIS TIME

## REMARKS

Use this section to briefly describe site activities observed at the time of the inspection. Note any possible violations of Interim Status Standards.

- CONTINGENCY PLAN SHOULD BE AVAILABLE TO LOCAL AUTHORITIES
- ALL CONTAINERIZED STORAGE SHOULD BE IN TIGHTLY SEALED, NON-ERODING DRUMS
- WASTE PILES IN REGARD TO WIND DISPERSAL SHOULD BE ADDRESSED
- OPEN BOX STORAGE OF SHELLS NEAR INCINERATOR AREA